



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/522,262

09/21/2005

Iiro Hietanen

800186US

5683

7590
Ryan Mason & Lewis
90 Forest Avenue
Locust Valley, NY 11560

04/28/2009

EXAMINER

SHINGLETON, MICHAEL B

ART UNIT

PAPER NUMBER

2815

MAIL DATE

DELIVERY MODE

04/28/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/522,262	Applicant(s) HIETANEN, IIRO	
	Examiner Michael B. Shingleton	Art Unit 2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 122409.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 36-72 is/are pending in the application.
- 4a) Of the above claim(s) 52-72 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 36-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1-25-2005, 12-04-2006, 9-18-2007, 7-29-2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's election with traverse of Group I species A in the reply filed on 12-24-2009 is acknowledged. The traversal is on the ground(s) that the claims are directed toward a single general concept and that the species are not species. This is not found persuasive because there is a lack of general inventive concept for the reasons as presented previously and note that the device as claimed can be made by a materially different process. As to the species these are mutually exclusive species and accordingly are themselves patent distinct from each other contrary to applicant's beliefs.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 36-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wada US 6,703,689

B2.

Wada discloses a photodetector having at least one insulated through hole to which the “bottom” of the photodetector arrangement becomes the point of electrical contact through solder bumps with the outside world. Applicant states throughout the specification that this use of an insulated through hole allows the device to be more compact in the “z” direction. As Wada discloses this general inventive concept such is the case with Wada as well. The Wada reference may not be specific that the conductive material coated on the inside surface of the insulated hole is polysilicon but as polysilicon is a well known art recognized equivalent form of conductor material in the semiconductor art it would have been obvious to one of ordinary skill in the art at the time the invention was made to have replaced the conductive material (12) within the through hole of Wada with polysilicon. Note the conductive paths especially in Figure 1 on the “upper” surface of the substrate. Note that Figure 1 clearly shows the at least partial filling of the through holes. As to the arrangement of anodes and cathodes i.e. which one is on top this is

Art Unit: 2815

merely a obvious design criteria (rearrangement of parts) that does not present a patentable distinction over the prior art. As to the use of the photo-diodes or photo detectors in arrays, imaging systems etc. these are all well known uses for a photo-detector and as such it would have been obvious to one of ordinary skill in the art at the time the invention was made to used the element mad obvious above in such a manner as again these are merely conventional uses for photodectors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Shingleton whose telephone number is (571) 272-1770.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Parker, can be reached on (571) 272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in cursive script, reading "Michael B. Shingleton". The signature is written in dark ink on a white background.

MBS
April 15, 2009

/Michael B. Shingleton/
Michael B Shingleton
Primary Examiner
Group Art Unit 2815